

### REMARKS

In the Office Action mailed from the United States Patent and Trademark Office on September 29, 2008, the Examiner rejected claims 1-5, 8-9, 12, 14-37, 39-49, 58-63, 65 and 67-70 under 35 U.S.C. 101, rejected claims 1-5, 8-9, 12, 14-37, 39-55, 57-63, 65 and 67-70 under 35 U.S.C. 112, first paragraph, rejected claims 1-6, 8-10, 14-19, 22-23, 25, 27-29, 31, 33-43, 48, 50-52, 58-59 and 61-69 under 35 U.S.C. 103(a) as being unpatentable over Krebs (United States Patent No. 7,029,280, hereinafter "Krebs") in view of Parry et al (United States Patent No. 6,077,085, hereinafter "Parry") and further in view of Turner (United States Patent No. 6,633,742, hereinafter "Turner"), rejected claims 12, 53-55 and 57 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Rukavina et al (United States Patent Application Publication No. 2002/0188583, hereinafter "Rukavina"), rejected claim 22 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Jensen (United States Patent No. 6,834,276 hereinafter "Jensen"), rejected claims 24, 26, 60 and 70 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Kershaw et al (United States Patent No. 5,565,316, hereinafter "Kershaw"), rejected claims 30 and 49 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Jenkins (United States Patent No. 6,293,801, hereinafter "Jenkins"), rejected claim 32 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Strub et al (United States Patent No. 6,652,287, hereinafter "Strub"), and rejected claims 35-36 and 44-46 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Siefert (United States Patent No. 5,810,605, hereinafter "Siefert").

The Applicant expresses appreciation for the Examiner's Interview conducted on January 16, 2009, wherein the rejections under 35 U.S.C. 101, 35 U.S.C. 112, first paragraph, 35 U.S.C. 103 and were discussed, and the cited references and distinguishing features of the present invention were also discussed. Applicant respectfully submits the following in light of the Examiner's Interview that the claim set as provided herein is not made obvious by the cited references, and respectfully provides the following:

Rejections under 35 U.S.C. 101

In the Office Action the Examiner rejected claims 1-5, 8-9, 12, 14-37, 39-49, 58-63, 65 and 67-70 under 35 U.S.C. 101, indicating that the claimed invention is directed to non-statutory subject matter.

In the *en banc* majority opinion in *In re Bilski*, the Federal Circuit articulated that a claimed process is patent-eligible under 35 USC 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. Applicant respectfully submits that the claims provided herein provide a sufficient tie to a machine or apparatus. For example, independent claim 61 recites a "computer program product for implementing within a computer system a method for providing a dynamic continual improvement educational environment that is tailored to an individual learner, the computer program product comprising: a computer readable medium encoded with computer executable code utilized to implement the method...". Applicant respectfully submits that "a computer readable medium encoded with computer executable code utilized to implement the method..." provides a sufficient tie to a machine or apparatus. Similarly, independent claims 1 and 58 recite "a computer processor and a computer readable medium encoded with computer executable code".

Accordingly, Applicant respectfully submits that the claims provide a sufficient tie to a machine or apparatus to be patent-eligible under 35 USC 101, and therefore overcome the rejections made by the Examiner under 35 U.S.C. §101.

Rejections under 35 U.S.C. 112

In the Office Action the Examiner rejected claims 1-5, 8-9, 12, 14-37, 39-55, 57-63, 65 and 67-70 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner indicated that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed had possession of the claimed invention. In making this argument, the Examiner points to "...automatically and adaptively customize the educational path to the particular learner, wherein the customizing of the educational path comprises: identifying which portions of the educational content and the educational activities are to be combined and presented to the learner based upon the learner performance data obtained and analyzed by the system; combining the identified portions of the educational content and the educational activities; and sequencing the combined educational content and educational activities for the learner based upon the learner performance data obtained and analyzed by the system, wherein the sequencing comprises modifying the combination of the educational content and educational activities based upon the learner performance data".

Applicant respectfully submits that such limitations as claimed are supported by the present application as originally filed with the United States Patent Office. For example, reference is made to the disclosure of the Adaptive Path Builder (for example,

see pages 34-43) and the analysis tools, specifically the Learning Optimizer (for example, see pages 78-98). Applicant provides the following sample language pulled from the lengthy supporting discussion:

... An adaptive path can be a linear sequence of activities or a more adaptive sequence with individualized branching and repetition, such as a computer-adaptive test. (page 34, lines 15-17) ... Branching and properties are based on the individual's learning context, which includes any known characteristics of the learner. (page 34, lines 19-20) ... In establishing relationships between concepts, a branch may be formed automatically or added manually. (page 39, lines 3-4)

... There are four types of inputs or variables defined in the research organizer that are needed in order for the learning optimizer to perform its function. The variables describe (i) the learner, (ii) the instructional system, (iii) the situation, and (iv) response measurements. Learner variables describe the person using the system, whereas learning history reports the choices made by the learner. Instructional factors describe properties of an activity or adaptive path that are set by the system or determined by developer. These factors are on the learner or concept level. The user has no control over the frequency or levels of these factors. Situational factors describe the surroundings and environmental conditions of the learner. Response measurements are variables to measure how well the user is learning his/her target subject (e.g., language or other educational topic). (pages 78-79, beginning on line 20 of page

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... The learning optimizer identifies and optimizes the relationships between these sets of variables using information obtained from the research organizer. (page 79, beginning on line 19)

... Results are analyzed automatically, and the system recommends or enforces optimum settings. (page 86, beginning on line 6)

... [A]n implementation module also interfaces with an analysis module, which is employed to evaluate the learning. The analysis module includes various tools to perform the evaluation. Based on the evaluation, a modification module may be employed to selectively customize educational content, a frequency in which content is presented, an order of content presentation, or any other factor to customize the teachings to the individual user, group or lesson. Accordingly, embodiments of the present invention embrace the utilization of a variety of tools that enable the analysis of teaching and learning within the dynamic and customizable continual improvement educational process. Automated experimentation is an important part of the overall method of the present invention, which makes the continual improvement educational environment feasible. This method of automated experimentation accelerates the improvement of education well beyond the rate of traditional educational research methods. (pages 97-98, beginning on line 18 of page 97)

Accordingly, for at least these reasons, Applicant respectfully submits that the claims as provided herein are supported by the written description requirement to

reasonably convey to one of skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention, and therefore respectfully submits that the claims overcome the rejections made by the Examiner under 35 U.S.C. §112, first paragraph.

Rejections under 35 U.S.C. 103

In the Office Action the Examiner rejected claims 1-6, 8-10, 14-19, 22-23, 25, 27-29, 31, 33-43, 48, 50-52, 58-59 and 61-69 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry and further in view of Turner, rejected claims 12, 53-55 and 57 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Rukavina, rejected claim 22 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Jensen, rejected claims 24, 26, 60 and 70 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Kershaw, rejected claims 30 and 49 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Jenkins, rejected claim 32 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Strub, and rejected claims 35-36 and 44-46 under 35 U.S.C. 103(a) as being unpatentable over Krebs in view of Parry in view of Turner and further in view of Siefert.

M.P.E.P. § 2141 sets forth the *Graham* factual enquiries that should be considered when making an obviousness rejection under Section 103: 1) ascertaining the scope and content of the prior art; 2) ascertaining the differences between the claimed invention and the prior art; and 3) resolving the level of ordinary skill in the pertinent art. (Citing *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966).) In addition, M.P.E.P. §§

2141 and 2142 set forth that “the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” (Citing *KSR International Co. v. Teleflex Inc. (KSR)*, 550 U.S. \_\_\_, 82 USPQ2d 1385 (2007).)

For a rejection under Section 103 to stand, it must explicitly set forth 1) factual findings showing that each claim element was known in the art at the time of the invention, and 2) factual findings showing that one of ordinary skill in the art, at the time of the invention, would have found it obvious to modify or combine the teachings to arrive at the claimed invention. (See, for example, the enumerated required articulations set forth in M.P.E.P. § 2143 for each lettered rationale.)

Applicant respectfully submits that the references cited in the Office Action, either alone or in combination, do not teach or suggest all the limitations claimed in the claim set provided herein. For example, none of the references (alone or in combination) teach or suggest “... wherein the customizing of the educational path comprises: identifying which portions of the educational content and the educational activities are to be combined and presented to the learner based upon the learner performance data obtained and analyzed by the system; combining the identified portions of the educational content and the educational activities; and sequencing the combined educational content and educational activities for the learner based upon the learner performance data obtained and analyzed by the system, wherein the sequencing comprises modifying the combination of the educational content and educational activities based upon the learner performance data” as claimed in the independent base claims.

In the Office Action, the Examiner refers to column 15, lines 30-60 of Turner to indicate that Turner teaches that “...customizing of the educational path comprises:

identifying which portions of the educational content and the educational activities are to be combined and presented to the learner based upon the learner performance data obtained and analyzed by the system; combining the identified portions of the educational content and the educational activities; and sequencing the combined educational content and educational activities for the learner based upon the learner performance data obtained and analyzed by the system, wherein the sequencing comprises modifying the combination of the educational content and educational activities based upon the learner performance data.” However, Applicant respectfully disagrees. Column 15, lines 30-60 of Turner provide:

The user is then permitted to select one or more knowledge modules 122 which they wish to perform. The user may select any combination of the available knowledge modules 122. The knowledge modules identifier 110 then dynamically sequences the selected knowledge modules 122 in an order appropriate to perform all of the selected tasks. In an alternate embodiment, the user may select the order they wish to perform each task contained within each knowledge module 122. The knowledge module identifier 110 for the Perform working mode contains a two-dimensional array of all of the available knowledge modules 122 along with a unique sequence identifier, i.e. integer number, for each. The sequence identifier is pre-defined by the author of the content and represents the overall ordering of the knowledge modules 122. The lower the sequence identifier, the higher the priority in the ordering. The knowledge module identifier 110 looks up each selected knowledge module 122 and



determines its sequence identifier. The selected knowledge modules 122 and their corresponding knowledge sub-modules 120 are then sequenced numerically using their corresponding sequence identifiers. Alternatively, other organizational structures may be used to appropriately sequence multiple tasks together.

Each knowledge module 122 consists of one or more knowledge sub-modules 120 as described. Further, one or more knowledge sub-modules 120 may be shared among two or more knowledge modules 122. When the user selects two or more knowledge modules 122, there is a chance that both knowledge modules 122 will contain common sub-modules 120. To avoid confusing the user, it is preferred to remove the redundant knowledge sub-modules 120. (Underlining provided for emphasis.)

Allowing a user to select knowledge modules that they wish to perform, allowing a user to select the order they wish to perform each task, and/or numerically sequencing knowledge modules and sub-modules does not teach to "... automatically and adaptively customize the educational path to the particular learner, wherein the customizing of the educational path comprises: identifying which portions of the educational content and the educational activities are to be combined and presented to the learner based upon the learner performance data obtained and analyzed by the system; combining the identified portions of the educational content and the educational activities; and sequencing the combined educational content and educational activities for the learner based upon the learner performance data obtained and analyzed by the system, wherein the sequencing comprises modifying the combination of the educational content and educational

activities based upon the learner performance data..." as claimed in the independent base claims provided herein. (Underlining provided for emphasis only.)

Moreover, Applicant respectfully submits that the teaching by Turner of the redundancy removal teaches away from the teaching of Parry to provide systematic spaced review. For example, Turner teaches:

Once the selected knowledge modules 122 are sorted, the knowledge module identifier 110 identifies all of the knowledge sub-modules 120 in each of the selected knowledge modules 122 (287). Redundant knowledge sub-modules 120 are then removed (288). As was described, two or more knowledge modules 122 may share knowledge sub-modules 120. When the user selects these knowledge modules 122, the redundant knowledge sub-module should be removed to avoid confusing the user, e.g. the user might be instructed to remove the same part twice. Knowledge sub-modules 120 for the perform working mode are categorized as install, remove or unique knowledge sub-modules 120. This categorization is reflected in the knowledge sub-module 120 title as stored in the knowledge module identifier 110, and described below. The sequenced knowledge modules 122 and their corresponding sub-modules 120 are listed in an array. The array is scanned from the first knowledge module to be presented to the last. For remove knowledge sub-modules 120, the first occurrence is kept and subsequent occurrences of identical knowledge sub-modules 120 are removed as redundant. For install knowledge sub-modules 120, the last occurrence is kept and all prior identical knowledge

sub-modules 120 are removed. Unique knowledge sub-modules 120 are not checked for redundancy. In this way, for example, parts that are removed are not removed again, and parts that are to be installed are only installed once. (see col. 24, lines 33-59) (underlining provided for emphasis)

The teaching of Parry to provide systematic spaced review is taught, for example, in the discussion relating to Figure 6 of Parry. Applicant respectfully submits that the teaching by Turner of the redundancy removal teaches away from the teaching of Parry to provide systematic spaced review and therefore Turner is not properly combinable with Parry.

For at least the reasons provided herein, Applicant respectfully submits that the references cited in the Office Action do not make obvious the claim set as provided herein. The references cited in the Office Action, alone or in combination, do not teach or suggest all the claim limitations of the independent base claims. And, since the references cited in the Office Action do not teach or suggest each and every limitation of the independent claims, Applicant respectfully submits that the prior art references do not make obvious the independent claims as provided herein. And since the prior art references do not make obvious the independent claims, Applicant respectfully submits that the prior art references cited in the Office Action do not make obvious the further limitations provided in the corresponding dependent claims, which depend from the independent base claims.

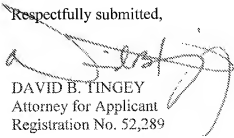
Thus, Applicant respectfully submits that for at least the reasons provided herein, the claim set as provided herein overcomes all rejections made in the Office Action.

CONCLUSION

Applicant submits that the amendments made herein do not add new matter and that the claims are now in condition for allowance. Accordingly, Applicant requests favorable reconsideration. If the Examiner has any questions or concerns regarding this communication, the Examiner is invited to call the undersigned.

DATED this 29<sup>th</sup> day of January, 2009.

Respectfully submitted,



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